

Title (en)
DYE-SENSITISED SOLAR CELL ELEMENT

Title (de)
FARBSTOFFSENSIBILISIERTES SOLARZELLENELEMENT

Title (fr)
ÉLÉMENT À CELLULE SOLAIRE SENSIBILISÉE PAR COLORANT

Publication
EP 2980915 A4 20161123 (EN)

Application
EP 13881218 A 20131218

Priority
• JP 2013075455 A 20130330
• JP 2013083824 W 20131218

Abstract (en)
[origin: EP2980915A1] A dye-sensitized solar cell element includes at least one dye-sensitized solar cell, and the dye-sensitized solar cell includes a first electrode, a second electrode which faces the first electrode, and an oxide semiconductor layer which is provided on the first electrode. The oxide semiconductor layer includes a light absorbing layer which is provided on the first electrode and a reflecting layer as a layer which is in contact with a portion of a first surface of a side opposite to the first electrode among surfaces of the light absorbing layer and which is arranged at a position farthest from the first electrode. The first surface of the light absorbing layer includes a second surface which is in contact with the reflecting layer, and a surface area S 1 of the first surface and a surface area S 2 of the second surface satisfy the following formula: $0.7 \leq S 2 / S 1 < 1$. The reflecting layer is arranged in an inner side of the first surface of the light absorbing layer.

IPC 8 full level
H01G 9/20 (2006.01)

CPC (source: EP US)
H01G 9/2031 (2013.01 - EP US); **H01G 9/2059** (2013.01 - EP US); **H01G 9/209** (2013.01 - EP US); **H01L 31/054** (2014.12 - US); **H01G 9/2081** (2013.01 - EP US); **Y02E 10/52** (2013.01 - EP US); **Y02E 10/542** (2013.01 - EP US)

Citation (search report)
• [X] EP 1788658 A1 20070523 - SHARP KK [JP]
• [A] US 2012312370 A1 20121213 - DEMOPOULOS GEORGE P [CA], et al
• [A] US 2010163102 A1 20100701 - HO WEN-HSIEN [TW], et al
• [A] MEYSAM PAZOKI ET AL: "CVD-grown TiO2 particles as light scattering structures in dye-sensitized solar cells", RSC ADVANCES, vol. 2, no. 32, 1 January 2012 (2012-01-01), pages 12278 - 12285, XP055310634, DOI: 10.1039/c2ra21361c
• [A] MIN-KYU SON ET AL: "Analysis on the Light-Scattering Effect in Dye-Sensitized Solar Cell according to the TiO 2 Structural Differences", INTERNATIONAL JOURNAL OF PHOTOENERGY, vol. 64, no. 1, 1 January 2012 (2012-01-01), US, pages 73 - 8, XP055310637, ISSN: 1110-662X, DOI: 10.1016/j.jphotochem.2006.04.030
• See references of WO 2014162639A1

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
EP 2980915 A1 20160203; EP 2980915 A4 20161123; CN 105051850 A 20151111; CN 105051850 B 20180306; JP 2014199788 A 20141023; JP 5377788 B1 20131225; US 2016055982 A1 20160225; US 9589736 B2 20170307; WO 2014162639 A1 20141009

DOCDB simple family (application)
EP 13881218 A 20131218; CN 201380074930 A 20131218; JP 2013075455 A 20130330; JP 2013083824 W 20131218; US 201314781209 A 20131218